

REMARKS

Applicants gratefully acknowledge the courtesy of Examiner Barbee and his supervisor for granting a telephonic interview with Applicants' representative. Claims 1-22 remain in the Application. Claims 1 and 12 were amended for clarity and to more particularly claim the decentralized nature of the patient monitoring by each patient's medical care provider.

Double Patenting

To overcome the Obviousness-type Double Patenting rejection, Applicants hereby submit that the approved Terminal Disclaimer filed January 17, 2003 in compliance with 37 CFR 1.321(c) overcome this rejection.

Claim Rejections - 35 USC §103

Claims 1-22 were rejected under 35 USC §103 as being obvious over Davis et al. in view of Brown. To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In the present case, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Davis et al. or combine it with Brown.

The present invention, as defined in claims 1 and 12, is drawn to decentralized monitoring of patients by their own medical care provider. As noted on page 3 of Applicants' specification, "medical care provider" is defined as "the person with responsibility for care of the patient." In Applicants' claimed invention, this entity has both bi-directional communication with the patient worn device and access to access to their archived information via the Internet.

The equivalent to the medical care provider in Davis et al. would be the physician 14 since clinician 12 merely performs central monitoring without being responsible for care of the patient. The physician 14 has no corresponding terminal or Internet access to patient information, only a phone and beeper. The equivalent of the claimed terminal in Brown is workstation 20 for generating scripts and viewing reports generated by running the scripts, which is much more limited than the claimed terminal.

Davis et al. teaches the provision of bi-directional voice communication between the patient and clinician *at a central station* over a *single* network via multiplexing, such as at 402 of figure 4, and *teaches away from* the presently claimed decentralized monitoring. Indeed, the

central station model of Davis et al. has significant drawbacks. The central monitoring system adds an additional layer of abstraction (clinician) between the patient and physician (i.e., their medical care provider), whereas the present invention allows direct monitoring by the patient's medical care provider via the Internet access to the archive.

The separate Internet archive and medical care provider terminals/Internet access to patient information of the present invention additionally allow multiple medical care providers to monitor the same patient. It also releases the burden of data-logging from the medical care provider terminal such that data other than emergency data can be regularly transmitted without overloading the medical care provider terminal with data. The central monitoring model of Davis et al., on the other hand, limits data logging to emergency situations.

Additionally, since Davis et al. is drawn to centralized monitoring, there is no need or suggestion to make data more accessible as stated in the rejection, absent hindsight.

Brown fails remedy the omissions of Davis et al. since it also fails to suggest any reason to make patient information more accessible. Brown only suggests use of the Internet because it is a cost effective way to time-shift communication, clearly showing that the only reason to combine Brown with Davis et al. was impermissible hindsight.

Like Davis et al., Brown adds additional layers of abstraction between the patient and the physician via "scripts" since: (i) there can be a significant time delay because scripts will only run when the remote device connects to the server (see column 9, lines 37-38), and (ii) the only information generated (in the form of patient reports) is the data that is requested via scripts.

Conclusion

For the reasons cited above, Applicants submit that claims 1-22 are in condition for allowance and requests reconsideration of the application. If there remain any issues that may be disposed of via a telephonic interview, the Examiner is kindly invited to contact the undersigned at the local exchange given below.

Respectfully submitted,

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MARKED-UP VERSION SHOWING CHANGES MADE BY AMENDMENTIn the Claims:

The claims were amended as follows:

1. (Amended) A system for remotely monitoring patient variables, comprising:
 - at least one patient-worn sensor;
 - a patient-worn monitoring unit connected to the sensor;
 - said patient-worn monitoring unit comprising a [processor] data acquisition means for receiving information from said at least one sensor, logic means for processing the information, and [further comprising] a wireless communication device connected to a first wireless network, wherein said first wireless network is adapted to [send and receive communications] transmit information over the Internet;
 - a [Host data archive] data archiving and distribution means connected to the Internet to communicate with [the] a plurality of patient-worn monitoring units and store transmitted information;
 - a second network connected to the Internet and first wireless network;
 - a plurality of medical care provider terminal means connected to the second network for communication of information in a bi-directional manner between [a] each patient's medical care provider and [the] an associated patient-worn monitoring unit over said second and first networks and for remotely accessing associated patient information from said data archiving and distribution means over the Internet.
13. (Amended) A method for remotely monitoring patient variables, comprising:
 - attaching at least one patient-worn sensor to a patient;
 - providing a patient-worn monitoring unit connected to the sensor, wherein said patient-worn monitoring unit acquires information from the at least one sensor, analyzes the information and transmits information over[includes a processor and a wireless communication device connected to] a first wireless network;
 - said patient-worn monitoring unit sending and receiving [communications] information over the Internet via said first wireless network;

an Internet-connected server archiving and distributing information from
[providing a Host data archive connected to the Internet to with the] a plurality of patient-
worn monitoring units;

connecting a second network to the Internet and said first wireless network;

connecting a plurality of medical care provider terminals to the second network
[for communication];

communicating with said terminals in a bi-directional manner between [a] each
patient's medical care provider and the patient's patient-worn monitoring unit over said
second and first networks; and

said medical care providers remotely accessing archived information over the
Internet via said terminals.